

# Helper River Revitalization Project Phase III

Project ID: 3571  
Status: Completed  
Fiscal Year: 2017  
Submitted By: Eric McCulley

Project Manager: Hattie Johnson  
PM Agency: RiverRestoration  
PM Office: Carbondale  
Lead: Helper City  
WRI Region: Southeastern

## Description:

The two project sites of Phase III have been identified as fish passage barriers on the Price River in Helper. The first is a driven steel pile-on grade control (site 1) and the second is an active diversion, the Sacco diversion (site 2). The proposed work at site 1 includes removal of the steel pile-on, installation of in-channel habitat and grade control features, improvement of fish passage, improvement diversion efficiency, and floodplain restoration. Site 2 design work will be completed.

## Location:

The project is located on the Price River just up and downstream of the heart of the Helper City (UT1406007-005). The reach is in the upper portion of the watershed, approximately 30 miles downstream of Scofield Reservoir, and 1.65 miles downstream of the mouth of Price Canyon.

## PROJECT NEED

### Need For Project:

The Helper River Revitalization is an environmental infrastructure project on the Price River. The Pilot Project at Ivy Street was completed fall 2014. Phase II includes the removal of an abandoned sheet pile diversion near Janet Street and construction of two grade control structures to improve passage of fish, especially of the bluehead sucker. The Phase II Project site has been prepared and construction is on schedule for completion this winter (2015-2016). Utah Conservation Corps crews have removed invasive vegetation from the project site to improve access for construction equipment. The overall Helper River Revitalization includes the construction of green infrastructure on 2.5 miles of the Price River as it flows through Helper City. The Project will restore stream and riparian health functions, improve water quality, enhance public access, and build community stewardship of the river.

It is the goal of this next phase to continue to connect aquatic species to habitats upstream that have been long blocked by sheet pile grade control structures and abandoned diversions. This past fall, DWR staff performed a quick inventory of species upstream of the Pilot Project site. They were surprised to find over 100 bluehead suckers in only half an hour of shocking. Other species identified include speckled dace, mottled sculpin, mountain sucker, brown trout, and cutthroat trout. With Phase III of the Project, we intend to further open this habitat for these species both up and downstream.

This phase will continue the work of the first two phases by opening up another quarter mile of aquatic habitat for Colorado River cutthroat trout, bluehead suckers, mountain suckers, and many other species. The project includes a 50-year monitoring and maintenance plan in collaboration with Helper City, schools, citizen volunteers, and state agencies. Community volunteers are organized via the Helper River Revitalization Facebook page.

The conservation and restoration of the stream channel, as well as riparian improvements, is needed to restore stream health, floodplain habitat, riparian buffer areas, and create public access to the restored Price River. Historically the Price River was straightened and realigned for the highway and railroad. Several steel pile-on grade control structures were installed to stabilize the channelized reach. Land developments filled the floodplain, hardened the banks, and encroached the river. The channel and banks have been inadequately stabilized using concrete, slag, riprap, cars and other junk fill materials. Floodplain habitats no longer exist. Vegetation overstory is dominated by invasive species, such as Russian olive and Siberian elm, lowering the biological diversity. The narrow channel has become entrenched, creating excessive velocities, limited pools, and homogenous aquatic habitat. Since the completion of the Pilot Project there have been native and sport species found upstream of that project reach that had not previously been observed. The Project reach has not been considered viable for fish stocking, but DWR staff familiar with the project have discussed stocking the reach with Colorado River cutthroat trout post-revitalization. The reach has limited public access and is confined by developments and steep encroached embankments. Upstream reaches experience high angler pressure. There is a need to create a more viable and accessible fishery on the Price River.

The Project is immediately upstream of a 303(d) impaired segment of the Price River listed for partially supporting beneficial uses. In 2010, the downstream segment was listed for macroinvertebrate and biological

impairment; and in 2004 for total dissolved solids (TDS). Non-point pollution sources (hydromodifications, sediment loading, diminished native riparian vegetation, and loss of floodplain connectivity) have adversely impacted natural channel functions and significantly contribute to the 303(d) listed impairments.

There are 8 fish passage barriers within the project reach. This phase proposes to create passage for all fish species around 2 of these barriers. The initial two phases of the project have already removed 2 barriers to fish. Opening up and restoring this reach creates a potential corridor for native species, and advances the effort for the Colorado River Recovery Program.

The overall project has been designed to accommodate this phased approach as funds become available. The continuation of the Project in Phase III, will include many strategies to further improve both aquatic and riparian habitat connectivity and access for anglers and the community. This phase will highlight incentives for continuing to protect and enhance the natural channel values and the reduction of fish barriers.

### Objectives:

The third phase of this project proposes to remove a sheet pile grade control upstream of the N. Main Street Bridge. It also proposes to design fish passage around the Sacco diversion adjacent to the alfalfa field located off Hwy 157 on the south side of Helper. Recreation and access, including riparian and bank restoration, would be improved at the existing sheet pile structure and Sacco diversion site in the future. A developer interested in building a camping and recreational vehicle park on the adjacent alfalfa farm is interested in creating a healthy riparian corridor with soft paths and river access points. We are working with the developer of the park, Tom Lund, to concentrate use and access in appropriate locations to protect the enhanced riparian corridor while providing access to the enhanced fishery. He is a partner on the project and contributing both in-kind and with funding.

Project objectives are to continue to: 1.) Remove fish barriers on the Price River for native and sport fish; 2.) Repair and enhance riparian habitat; 3.) Create designated river access points for boat and angler ingress/egress; 4.) Implement BMPs to improve water quality, restore aquatic and riparian habitat, and move toward meeting aquatic life beneficial uses; and 5.) Connect the community to the river by enhancing access and recreational experiences.

To meet restoration objectives the overall project proposes to:

- \* Conserve 62 acres of riparian lands.
- \* Remove 8 grade control/diversion structures to improve fish passage.
- \* Improve 12,672 linear feet of bank stabilization and flood protection.
- \* Restore 26,400 linear feet of streambank.
- \* Connect 41 acres of floodplain.
- \* Construct 1.6 acres of wetlands.
- \* Buffer 15 stormwater outlets.
- \* Expand the Parkway trail with an additional 1.5 miles of paved trails, three boardwalks over wetlands, and 1.3 miles of soft trails accessing the water.
- \* Install 2 ADA accessible fishing ramps.
- \* Restore 12 acres of in-channel aquatic habitat.
- \* Improve experiential quality and catch rate for anglers.
- \* Improve abundance and diversity of resident fish species.
- \* Improve abundance and diversity of macroinvertebrate populations
- \* Create a comparable fishery to upstream reaches.
- \* Connect a potential corridor for Colorado River native species.

The following project objectives were completed with the Pilot Project:

- \* Riparian and River Corridor Conservation (0.5 acres of river and riparian area)
- \* Improved Bank Stabilization (400 linear feet)
- \* Improved Flood Flow Conveyance (200 feet of channel)
- \* Restored Floodplain Connectivity (0.25 acres interior floodplains)
- \* Diversified Native Riparian Vegetation (0.3 acres of removed invasive species and enhanced with native vegetation)
- \* Enhanced In-channel Benthic Macroinvertebrate Habitat (0.2 acres)
- \* Removed trash fill from the banks and channel (220 tons)
- \* Removed fill material and levees from the floodplain (390 CY)
- \* Over 20,000 region-wide citizens embracing their riverfront with stewardship, education, recreation and volunteer service.

The following project objectives are scheduled to be completed this winter ('15-'16) to conclude Phase II:

- \* Removal of 1 abandoned sheet pile diversion structure to create fish passage
- \* Diversified native riparian vegetation; Removal of invasive plants, Russian olive and Siberian elm (0.2 acres)
- \* Enhanced In-channel Benthic Macroinvertebrate Habitat (0.1 acres)
- \* Improved access from the Parkway trail to the river

The following project objectives are proposed to be completed in Phase III:

- \* Removal of 1 sheet pile grade control structure to create fish passage

- \* Improve experiential quality and catch rate for anglers.
- \* Improve abundance and diversity of resident fish species.
- \* Improve abundance and diversity of macroinvertebrate populations
- \* Create a comparable fishery to upstream reaches.
- \* Connect a potential corridor for Colorado River native species.
- \* Enhance angler and community access at designated locations

### Threats / Risks:

The Price River has been neglected for years. Without taking action, the Price River risks continued degradation to water quality and aquatic life beneficial uses. Without restoration of stream health, the reach will continue to have limited survival rate and abundance of resident fish. The bluehead sucker (*Catostomus discobolus*) would continue to have low population and limited habitat within the reach. Without restoration of pools, holding capacity, and public access, the reach will continue to decline as a viable sport fishery. Without the removal of fish passage barriers the potential to recover historic habitat will continue to be limited. Riverbanks of the Price are overgrown with Russian olive and other noxious and invasive plant species. Without their removal and replacement with a native riparian corridor the reach will continue to see bank erosion problems, recreational access issues, and low diversity in its wildland plant and animal communities. Without the creation of improved public access the upstream reaches of the Price River will continue to be over-fished. The completed phases of the Helper River Revitalization have already shown local improvements to all threats listed above. It would put the overall Project at risk to delay this phase due to the interest and momentum created from the initial phases.

### Relation To Management Plan:

Project planning has identified opportunities that align multiple local, county and statewide plans for restoration, recreation, and economic growth. These plans include the Helper City General Plan, Helper City Stormwater and Capital Facilities Improvement Plan, Carbon County Weed Management Plan, Carbon County Natural Resource Use and Management Plan, Carbon County and Price City Trails Plan, Carbon County Comprehensive Plan, Utah Wildlife Action Plan, Colorado River Recovery Program, Price River Drainage Management Plan, DEQ/EPA West Colorado Total Maximum Daily Load, the Utah State comprehensive Outdoor Recreation Plan, and the Price River Watershed Plan. The Project will implement the following measures which complement existing plans:

- \* Preserve open space
- \* Support responsible development and long-term health of the land and watershed
- \* Enhance multiple recreational uses
- \* Promote alternative modes of transportation through pedestrian and bicycle trails
- \* Encourage multi-agency and public and private landowner coordination
- \* Support public education programs
- \* Promote stewardship and connect citizens to the land
- \* Maximize public and private benefits of water resources
- \* Reduce non-point source pollution loading
- \* Buffer and improve storm water
- \* Remove invasive species
- \* Enhance the riparian area
- \* Enhance the urban fishery
- \* Remove fish passage barriers
- \* Facilitate angler access
- \* Encourage tourism and business growth
- \* Support economic development

### Fire / Fuels:

Phase III of the Helper River Revitalization, as with the Pilot project and Phase II, will reduce fuel loading along the Price River corridor with the removal of Russian Olive. The project site is located in the heart of downtown Helper. Controlling invasive species will help to protect nearby homes from fire.

### Water Quality/Quantity:

An urgent need exists to reduce and repair NPS pollution by guiding revitalization from the river out (versus re-development continuing to limit the health of the stream). This phase of the project includes hydromodifications to improve flow capacity, river bed and bank restoration, and riparian enhancement with the objective of reductions of non-point source pollution and associated benefits. The Project is based on hydraulic and geomorphic investigation that determined appropriate restoration measures sustainable over the long-term under the natural dynamics of the river. The goal of channel restoration for this project is to maximize the valuable, natural river functions such as sediment transport, flood capacity, recreation, riparian and aquatic health. This phase will further the water quality benefits begun at the Pilot Project and in Phase II by continuing these objectives up and downstream of these project's sites. The Price River through Helper City is only 3 miles upstream of a 303d listed impaired segment. Continued work in the upper reaches of the Price will indefinitely improve downstream impairments. The removal of the sheet pile and installation of native boulder will improve the hyporeic exchange in this restored natural channel and improve water quality. The proposed design work at the Sacco Diversion will improve the efficiency and maintenance of the intake gates on either side of the river.

### Compliance:

Not applicable; The project area is located within Helper City and has been disturbed by previous railroad, highway, residential and commercial development. The River Corridor is concurrently being redeveloped. No cultural resources are anticipated to be impacted by the project. If potential cultural resources in the project area are discovered during construction and cannot be avoided, activities in that area will be suspended until the properties can be evaluated for eligible listing on the National Register of Historic Places in consultation with Utah State Historical Preservation Office.

## Methods:

This Project will require extensive excavation work to reconnect the channel to its floodplain and remove concrete, riprap, steel pile-on, and other abandoned and dilapidated structures. Due to the unknown nature of the existing fill material and a lesson was learned from the construction of the Pilot Project, excavation may be required to remove junk from the stabilized banks. Heavy equipment will be used for excavation and haul-off of timber and stone walls, junk fill, and other materials from the banks. Construction activities will include the use of a hydraulic breaker to break apart abandoned concrete abutments and diversion structures. Bank stabilization will include both stone toe protection, and bioengineering methods utilizing live-wood structures, vegetation revetments, pole planting and container planting. Work will include the removal of invasive Russian olive trees utilizing cut-stump herbicide and excavation treatments. Extension landscaping is anticipated for revegetation and native enhancement of riparian vegetation. Temporary irrigation will be installed to ensure vegetation establishment. Aquatic habitat enhancement will include excavation of bed materials to establish pools and the placement of boulders for object cover and artificial riffle-pool enhancements. A significant effort for the Care of Water and on-shore Best Management Practices will be required to minimize disturbance from construction activities and to comply with Clean Water Act Sections 404/401 and SWPPP permit requirements.

Preparation for the construction plans and specifications will require professional services from a team of engineers and scientists. Design services include preparing detailed plans and specifications, contract documents, land survey, hydraulic and floodplain mapping, soils and geotechnical testing, preparation of OMRR&R plans, project coordination, construction management and potential archeological consulting. Contractual services for heavy equipment will be used for the Project. The project is expected to use excavators of 350ton size with articulated thumbs with the ability to rotate and place boulders up to 6' size. Loaders, side-dumps, and skid-steers will also be used for excavation and haul-off. Aerial bucket lifts are expected for trimming to protect mature native cottonwoods.

## Monitoring:

A fifty year Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) plan will be prepared to guide Helper City in maintaining the Riparian Corridor. Operational practices will include weed control, stormwater basin clean-out, and regular maintenance of irrigation, trash, access and pathways. A monitoring component will be included to provide metrics to assess the stream health condition and qualify improvements gained by BMP implementation. Results may show trends toward continued improvement, or uncover recommendations for adaptive management including BMPs, operational practices, and other watershed restoration needs. Implementation of monitoring will provide technical support to Helper City for maintenance needs, the Division of Water Quality for assessment of stream health, and the Division of Wildlife resources for assessment of riparian and aquatic health, fish stocking, and regulation. Fish inventories have been done by the DWR and found increased numbers of bluehead sucker, speckled dace, mottled sculpin, mountain sucker, and cutthroat trout. We will be requesting these inventories as subsequent phases are completed.

Photographic Monitoring: Photographs taken at referenced locations will show changes over time; the impacts from recreation users, accumulation of sediment under bridges, and the stability and function of restoration treatments and structures. These photographs are recommended at bridges, outside of bends, high use recreation access sites, steep banks, and other areas that may show qualitative record of conditions.

Photographic monitoring is recommended to be conducted annually and following flood events at referenced stations. Helper City will conduct annual PM.

Channel and Bank Surveys: Topographic surveys of the channel, banks and floodplain for pre-restoration conditions have been collected for baseline cross section and longitudinal profiles. As-built surveys shall be conducted to evaluate post project conditions. Channel surveys will determine the stability of in-channel structures, and the formation of a thalweg. Functional attributes of the channel will be monitored by the structures' ability to scour and deposit sediments, provide low-flow habitat for fish, and navigable passage for watercrafts. Bank surveys will monitor the stability of the bank and how the newly excavated floodplains connect with the channel for overbank processes and convey flood flows.

Riparian Surveys: Vegetation transects surveys will validate whether restoration treatments were effective at diversifying the age and species in the riparian corridor. In addition, these surveys will help determine if birding food sources and perching stands are maintained in the riparian corridor. Pedestrian patterns should also be inventoried for erosion and trampling. Pre-restoration surveys are planned summer 2014, and planned to be repeated 5 years after restoration to give adequate time for establishment.

Riparian Invasive Species Inventory: An inventory of the approximate cover and location of weed species and competitive non-native trees are planned spring-summer 2014. This inventory will be done with a handheld GPS to map areas of concern and estimate approximate cover. This inventory will aid in determining control treatments and adaptive management of the riparian corridor.

Aquatic Surveys: The objective of restoring the physical changes to the channel is to create a positive biological response in the aquatic community. Monitoring the macroinvertebrate community composition and abundance is a good metric for stream health. Fish population surveys show the abundance, age, and type of fish present

in the Price River. Fish passage inspection by a qualified biologist during storm flow, low-flow, and flood flow will help determine passage improvements to structures. These surveys will help with management decisions and the assessment of the biotic integrity of the River. The Division of Water Quality collected baseline macroinvertebrate conditions in the fall 2013. The Division of Wildlife plans for fish population surveys in spring, 2014. Aquatic surveys are recommended to be repeated 5 years after restoration to give adequate time to respond to restoration.

Water Quality Sampling: Helper City is actively setting up a volunteer Water Watch program for grab samples for general assessment of water quality. These programs are helpful to the State to determine if more extensive monitoring within the reach needs to be prioritized. Grab samples recommended are: temperature, turbidity, conductivity, and pH. The Division of Water Quality currently collects WQ near the Wellington Gage station.

#### Partners:

Helper City, Trout Unlimited, Tom Lund, Walton Foundation System Conservation Pilot Program, Price River Watershed Council, Price River Enhancement Committee, Sorensen Foundation, and Utah Conservation Corps. Our partnership with Trout Unlimited has become stronger with a new position from TU on the Price River. We are working with them to protect in-stream flows on the Price through the System Conservation Pilot Program. This proposal for work on the Price in Helper City is a part of this greater watershed scale work. Additional contacts have been made with local schools, with the hope of having place-based learning opportunities for students in the future.

#### Future Management:

Helper City will hold land easements and be responsible for the future maintenance of the Project. An Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) plan will be developed with the objective to give the project a 50-year lifetime and commitment to success. Operational practices will include weed control, stormwater basin clean-out, and regular maintenance of irrigation, trash, access and pathways. The OMRR&R strives to maximize native planting survival, and restore structures to as-built conditions and/or adjust structures that are adversely affecting hydraulics. In conjunction with the OMRR&R plan a monitoring program will be implemented to assist Helper City with adaptively managing the riparian corridor. A community led volunteer group has formed since the completion of the Pilot Project to perform maintenance and watering of revegetated areas. This group is excited about future phases of the project and is committed to stewardship of their river. See their Facebook page for their coordination efforts.

#### Domestic Livestock Benefit:

Not applicable

BUDGET	WRI/DWR	Other	Budget Total	In-Kind Total	Grand Total
	\$254,396.00	\$261,440.00	\$515,836.00	\$5,000.00	\$520,836.00

Item	Description	WRI	Other	In-Kind	Year
Contractual Services	N. Main Street Grade Control removal and restoration Please see attached pdf titled Concept Cost Estimate_N Main St GC for itemized cost opinion for design, construction, and construction oversight	\$220,453.	\$3,000.00	\$5,000.00	2017
Contractual Services	Design services for fish passage and efficiency improvements on the Sacco Diversion. Please see attached pdf titled Concept Cost Estimate_Sacco Diversion for itemized cost opinion for the design as well as for the construction and construction oversight	\$33,943.0	\$5,000.00	\$0.00	2017
Contractual Services	Costs for construction, including cost of materials and equipment, for the improvement of fish passage and efficiency of the Sacco Diversion	\$0.00	\$253,440.	\$0.00	2017

FUNDING	WRI/DWR	Other	Funding Total	In-Kind Total	Grand Total
	\$254,396.00	\$158,000.00	\$412,396.00	\$5,000.00	\$417,396.00

Source	Phase	Description	Amount	Other	In-Kind	Year
Habitat Council Account	HCRF		\$8,587.49	\$0.00	\$0.00	2018

Allocation	Percent of Total
Big Game	0%

Source	Phase	Description	Amount	Other	In-Kind	Year
Allocation			Percent of Total			
Upland Game			0%			
Waterfowl			0%			
Sport Fish			40%			
Nongame Fish			60%			
Nongame Wildlife			0%			
DNR Watershed	N362		\$7,716.38	\$0.00	\$0.00	2018
Trout Unlimited		TU staff time to support activities improving fish habitat, passage, and flows. Sorensen Foundation direct cash for project work.	\$0.00	\$3,000.00	\$5,000.00	2017
Other		Campground/RV park developer contribution	\$0.00	\$5,000.00	\$0.00	2017
Habitat Council Account	HCRF		\$125,355.	\$0.00	\$0.00	2017

Allocation			Percent of Total			
Big Game			0%			
Upland Game			0%			
Waterfowl			0%			
Sport Fish			40%			
Nongame Fish			60%			
Nongame Wildlife			0%			
DNR Watershed	N362		\$112,736.	\$0.00	\$0.00	2017
Utah Office of Outdoor Recreation		funds for implementation	\$0.00	\$150,000.	\$0.00	2017

EXPENSE	WRI/DWR	Other	Expense Total	In-Kind Total	Grand Total
	\$254,396.00	\$155,000.00	\$409,396.00	\$5,000.00	\$414,396.00

Source	Phase	Description	Amount	Other	In-Kind	Year
Habitat Council Account	HCRF		\$8,587.25	\$0.00	\$0.00	2018

Allocation			Percent of Total			
Big Game			0%			
Upland Game			0%			
Waterfowl			0%			
Sport Fish			40%			
Nongame Fish			60%			
Nongame Wildlife			0%			
DNR Watershed	N362		\$7,716.62	\$0.00	\$0.00	2018
Trout Unlimited			\$0.00	\$0.00	\$5,000.00	2018
Other			\$0.00	\$5,000.00	\$0.00	2018
Habitat Council Account	HCRF		\$125,355.	\$0.00	\$0.00	2017

Allocation			Percent of Total			
Big Game			0%			
Upland Game			0%			

Source	Phase	Description	Amount	Other	In-Kind	Year
Allocation			Percent of Total			
		Waterfowl	0%			
		Sport Fish	40%			
		Nongame Fish	60%			
		Nongame Wildlife	0%			
DNR Watershed	N362		\$112,736.	\$0.00	\$0.00	2017
Utah Office of Outdoor Recreation			\$0.00	\$150,000.	\$0.00	2018

## SPECIES

Species	"N" Rank	HIG/F Rank
Bluehead Sucker	N4	N/A
Threat		Impact
Presence of Dams		High
Presence of Diversions		Very High
Bear Lake Cutthroat Trout		1
Threat		Impact
Not Listed		NA
Colorado River Cutthroat Trout	N2	1
Threat		Impact
Channel Downcutting (indirect, unintentional)		High
Channelization / Bank Alteration (direct, intentional)		Low
Presence of Diversions		High

## HABITATS

Habitat	
Aquatic-Forested	
Threat	Impact
Channelization / Bank Alteration (direct, intentional)	High
Housing and Urban Areas	Medium
Invasive Plant Species – Non-native	Medium
Presence of Diversions	Very High
No Standardized Condition Assessment Method	NA
Aquatic-Scrub/Shrub	
Threat	Impact
Channel Downcutting (indirect, unintentional)	High
Dam / Reservoir Operation	Medium
Housing and Urban Areas	Medium
Invasive Plant Species – Non-native	Medium
Presence of Diversions	Very High
Sediment Transport Imbalance	Medium

## Habitat

Riverine

Threat	Impact
Channel Downcutting (indirect, unintentional)	High
Channelization / Bank Alteration (direct, intentional)	High
Hiking / Foot Travel	Low
Invasive Plant Species – Non-native	Medium
Presence of Diversions	Very High
Sediment Transport Imbalance	Medium
Storms and Flooding	Low

## PROJECT COMMENTS

Comment      01/20/2016      Type: Project      Commenter   Anthony Wright

I am not clear on how this project will benefit the bald eagle and Lewis' Woodpecker. Bald eagles at this site are feeding on road-killed deer (not fish) and are at high risk of being killed by vehicles. The Ivy Street Pilot Treatment area doesn't look to me like it would benefit most bird species.

Comment      01/20/2016      Type: Project      Commenter   Hattie Johnson

We put those species in there because we think the riparian conditions will be improved, but can take them out if local expert knowledge does not believe there will be a tangible benefit.

Comment      01/25/2016      Type: Project      Commenter   Daniel Keller

Colorado River Cutthroat likely don't currently overlap with project, they do exist up higher in the drainage and CRCT projects closer to Helper are being considered (beaver creek), we know from electrofishing surveys in Helper that a significant amount of fish wash down into Helper section likely during high flow events becoming stuck within fragmented sections between barriers, addressing fish barriers as proposed in this project (and previous phases) will greatly benefit multiple fish species.

Comment      01/26/2016      Type: Project      Commenter   Hattie Johnson

Daniel, Thank you for this very informative and helpful comment!

Comment      01/27/2016      Type: Project      Commenter   Daniel Keller

I do believe you need to apply for a State Stream Alteration Permit for this project before any excavation occurs within the channel.

Comment      01/27/2016      Type: Project      Commenter   Hattie Johnson

That is correct, we will need a stream alternation permit as we did for the first two phases of the Helper River Revitalization. The work to obtain those permits are included in our design fees. The City will be the applicant on the permit.

Comment      01/27/2016      Type: Project      Commenter   Alan Clark

Are you going to be able to complete the engineering and complete the project for the Sacco diversion in one year (FY2017)?

Comment      01/27/2016      Type: Project      Commenter   Hattie Johnson

Alan,  
Thank you for your question. With the funding from WRI we will be able to complete the engineering for the Sacco Diversion in one year. We are in the process of requesting funding from a variety of other federal, state, and local sources for the cost of construction with the assistance of Trout Unlimited. If those funds are secured we are confident we can construct the project in FY 2017.

Comment      01/27/2016      Type: Project      Commenter   Nicole Nielson

I notice that you have not entered much into the fire/fuels section. I do know that many riparian projects do help reduce the risk of fire. You might ask a fuels person or look at project that are like yours and see if there is information that might help you.

Comment      02/01/2016      Type: Project      Commenter   Hattie Johnson

Thank you Nicole. We felt that it would be a little bit of a stretch to show much benefit in fire/fuels. I appreciate your suggestion to reach out to FFSL for input. We have reached out to the Carbon/Emery county Fire Warden to get his opinion and input on how our project may reduce fire danger for the community of Helper City.

Comment      02/02/2016      Type: Project      Commenter   Hattie Johnson

Nicole, we have added the removal of invasive Russian Olive on the site as a benefit to fire/fuels loading. Thank you for your comment.

Comment      01/29/2016      Type: Project      Commenter   Makeda Hanson

Remove Lewis Woodpecker and Bald Eagle from the species list by COB 01/01/2015

Comment      02/01/2016      Type: Project      Commenter   Hattie Johnson

Completed. Thank you Makeda.

Comment      08/20/2018      Type: Admin      Commenter   Alison Whittaker

This is just a reminder that completion reports are due August 31st. I have entered the expenses in the Through WRI/DWR column on the finance page. Please do not make any changes to numbers in the Through WRI/DWR column. Any "Through Other" or "In-kind" expenses will need to be entered by the PM or contributors. Be sure to click on the finalize button on the completion report when you have your completion report ready to be reviewed by WRI Admin. Don't forget to upload any pictures of the project you have of before, during and after completion. Thanks.

## COMPLETION

Start Date:

07/05/2017

End Date:

06/22/2018

FY Implemented:

2017

FY Completed:

2018

Final Methods:

Phase IV of the Helper River Revitalization project is similar to the first three phases, where heavy equipment was used to remove obsolete irrigation infrastructure and install rock arch structures to maintain vertical grade control in the Price River through Helper. The cross channel rock arch structures were designed to allow fish passage from below for native migratory fish and safe passage for humans from above. A polygon was added to the database with the aquatic and riparian improvements.

Project Narrative:

The Phase IV project is referred to as the "Saccos Diversion" because the Saccos family actively uses the diversion for agricultural purposes during the growing season. The Saccos were engaged along with the adjacent land owner to improve the longitudinal connection of aquatic habitat and improve riparian conditions, as well as meet the irrigation needs under existing water rights agreements. Several partners including Trout Unlimited, Partners for Fish and Wildlife, Utah Office of Outdoor Recreation and the local land owners continue to work together on the project.

Future Management:

The river corridor, including all phases of the project, will be managed under a 50-year Operations and Maintenance Plan that will be developed as the last phases are completed. Helper City will work with adjacent land owners along the entire corridor to maintain the river and riparian areas. The adjacent land owner for Phase IV is installing an irrigation system and will work with the City to keep riparian plantings alive and weeds under control.

Map Features

ID	Feature Category	Action	Treatment/Type
438	Dam	Removal	Moderate hazard
971	Fish passage structure	Construction	Fish ladder
972	Fish passage structure	Construction	Fish ladder
1008	Fish passage structure	Maintenance	Barrier (physical)